Microbiology

احياء دقيقة عامة

BT231

Previous Years Questions

أسئلة سنوات سابقة

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كلية التمريض

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No Answers

Bacterial cell Structure

1. When the cell wall is removes from Gram-negative bacterium without removing the outer membrane, the resulting form is called;

A. Spheroplast

B. Protoplast

C. Trophoplast

D. Hopanoids

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2. Flexible bacteria with a helical shape are called;

A. Vibrios.

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B. Spirilla

C. Spirochetes.

D. Coccobacilli

3. Which of the following is not major class of growth factors:

A. Amino acids

B. Vitamins

C. Purines and pyrimidines

D. Heme

E. none of these

4. All prokaryotic organisms are currently classified in the kingdom

A. Some are found in Prorista, some are found in Monera

B. Protista

C. Monera

D. Fungi

5. Bacterial cells that are variable in shape are called

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A. Pleomorphic

B. Coccobacilli

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C. Vibrio

D. Hyphal

6. Which of the following is not part of the process by which an endospore transforms to become a vegetative cell

A. Activation

B. Induction

C. Germination

D. Outgrowth

7. The term Sarcineae denotes // sarcinae

A. 4 cocci in a chain

B. 8 cocci in a cubic form

C. Grape like clusters of staphylococcus

D. Diplocccus or paris of staphylococcus

8. The most abundant protein(s) in outer membrane of the gram negative bacteria is;

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A. The porin proteins

B. The peripheral proteins

C. Glycoproteins

D. The Braun's protein

9. Lipids with polar and nonpolar ends are said to be

A. Amphipathic.

B. Amphibolic.

C. Bilateral.

D. none of the choices.

10. The term used to describe bacteria that are rod shaped is

A. Coccobacillus

B. Coccus

C. Bacillus

D. Vibrio

11. The term used to describe bacteria that are shaped like curved rods is

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A. Coccobacillus

B. Coccus

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C. Bacillus

D. Vibrio

12. The term used to describe bacteria that have a spherical shape is

A. Coccobacillus

B. Coccus

C. Bacillus

D. Vibrio

13. The negative charge of the gram positive cell wall is due to the presence of;

A. The lipopolysaccharide (LPS)

B. The teichoic acid

C. The peptidoglycan

D. The lipid A

14. When the flagella is clustered at one or both ends then this pattern is called;

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A. Monotrichous

B. Peritrichous

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C. Lophotrichous

D. Amphitrichous

15. One of the following is not a function of cell wall;

A. Provide protection against toxic substances

B. Always contribute to the pathogenicity of the bacteria /// may contribute

C. Protects the cell form osmotic lysis

D. Provides shape for the cell

16. Chemotaxis is a process by which bacteria

A. Move on solid surfaces by means of type IV fimbriae

B. Move toward an attractant or away from a repellent.

C. Avoid phagocytosis

D. Respond metabolically to the presence of autoinducer molecules.

17. The Basal body of a Gram positive Flagella consisted of the following rings:

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A. L ring, P ring, S ring and M ring

B. P ring and S ring

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C. L ring and P ring

D. P ring and M ring

18. Proteins that are embedded within the cytoplasmic membrane and not easily extracted are called;

A. Integral

B. External

C. Internal

D. Peripheral

19. When a substance is altered during transport across a membrane, it is called

A. Facilitated diffusion

B. Group translocation

C. Active transport

D. Passive diffusion

20. The lipopolysaccharide (LPS) that is found in the outer membrane of gram-negative bacteria is also known as

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A. Exotoxin

B. Endotoxin

C. Murein (Peptidoglycan)

D. Teichoic acid

21. Bacterial and archaeal ribosomes are known as _____ ribosomes, based on their sedimentation coefficient

A. 30S

B. 50S

C. 70S

D. 80S

22. All of the following statements about the periplasmic space are true EXCEPT

A. It is found only in gram-positive bacteria

B. It contains hydrolytic enzymes and binding proteins involved in nutrient acquisition.

C. It is located between the plasma membrane and outer membrane of gram-negative bacteria.

D. All of the choices are true

23. Svedberg is a unit used to measure;

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A. DAN/RNA size as a function of nucleotide length

B. Protein size as a function of its sedimentation velocity

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C. Carbohydrates size as a functions of polymer length

D. Lipid size as a function of the hyrdrocarbon chain length

24. A new protein has been described that transports a growth factor across the plasma membrane. This protein is most likely a/an

A. Cytoplasmic protein.

B. Peripheral membrane protein, facing the cytoplasmic side.

C. Integral membrane protein.

D. Peripheral membrane protein, facing outward

25. Many bacteria facilitate the uptake of iron by secreting low molecular weight molecules, called;

A. Prions

B. Siderophores

C. Chaperons

D. Permeases

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26. Which of the following is not considered a micronutrient

A. Manganese (Mn)

B. Magnesium (Mg)

C. Zinc (Zn)

D. Copper (Cu)

27. A plasmid that encodes the production of a toxin is called;

A. Col plasmid

B. Metabolic plasmid

C. Resistance plasmid

D. Virulence Plasmid

28. One of the following is not found in the bacterial cytoplasm

A. Actin protein

B. Nucleoid

C. Inclusion bodies

D. Ribosomes

29. Square planar arrangement of cells that forms when round bacteria remain attached to each other during reproduction are called

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A. Streptococci

B. Staphylococci

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C. Tetrads

D. Sarcinae

30. Rigid bacteria with a helical cell shape are called

A. Vibrios.

B. Spirilla.

C. Spirochetes.

D. Coccobacilli.

31. Gram-positive bacteria have a thinner layer of peptidoglycan than gram-negative bacteria.

True

False

32. The cell membrane is a rigid structure that provides bacteria with their characteristic shapes.

True

False

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33. Gram-positive bacteria have a structurally and chemically more complex cell wall than gramnegative bacteria

True

False

34. Some photosynthetic bacteria produce gas vacuoles that regulate their buoyancy but contain no lipid.

True

False

Viruses and Other Acellular Infectious Agents

1. Virions range in size from about 10nm to 300-400 nm. The smallest viruses are a little larger than:

A. Bacteria

B. Ribosomes

C. DNA

D. tRNA

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2. Largest viruses are about the same size as small _____ and can be seen in the light microscope.

A. Bacteria

B. Ribosomes

C. DNA

D. tRNA

3. The protein coat surrounding the viral genome is called the

A. Capsid.

B. Capsule.

C. Matrix.

D. Envelope.

4. Virion size ranges from

A. 1–40 nm.

B. 10–400 nm.

C. 600– 1,000 nm.

D. 1,000–10,000 nm.

5. Animal viruses have been cultivated in

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A. Suitable host animals.

B. Embryonated eggs.

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C. Tissue cultures (monolayers of animal cells)

D. All of the choices

6. In addition to lysis, animal viruses may exit the host cell by

A. Budding

B. Spores

C. Ascus

D. All answers are true

7. Two major types of symmetry found in viruses include

A. Icosahedral and radial.

B. Helical and radial.

C. Icosahedral and helical.

D. Radial and bilateral.

8. Many viruses have an outer membrane layer called:

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A. Capsid

B. Hemagglutinin

C. Envelope

D. Coat

9. Which of the following terms might be used to describe an irregularly shaped cell?

A. Cocci

B. Rods

C. Coccobacilli

D. Pleomorphic

10. Some complex viruses have icosahedral symmetry in the head region and helical symmetry in the tail. Overall, these viruses are said to have _____ symmetry.

A. Bilateral

B. Binal

C. Complex

D. None of these

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11. Adult T-cell leukemia is thought to be caused by

A. Parvoviruses

B. Retroviruses

C. Picornaviruses

D. Herpesviruse

12. Human cancer causing viruses most often have a _____ genome

A. ssDNA

B. ssRNA

C. dsDNA

D. dsRNA

13. Noneveloped viruses most often gain access to eukaryotic host cells by

A. Pinocytosis

B. Endocytosis

C. Nucleic acid injection through the plasma

D. Fusion with the host cell plasma membrane followed by entrance of the nucleocapsid into the cytoplasm

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14. Which virion release process is most often used by enveloped viruses

A. Budding

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B. Lysis

C. faclilitated diffusion

D. Diffusion through channel protein

15. In a plaque assay, each viral plaque is assumed to have arisen from the reproduction of _____ virion(s).

A. One

B. Two

C. more than one

D. one or more

16. The virus produces neuraminidase enzyme to;

A. Dissolve the membrane of the host cell to emerge outside

B. Dissolve the membrane of the host cell and inter

C. Dissolve the nuclear membrane of the host cell nucleus

D. Dissolve the proteins in the host cell for nutrients

17. The simplest viruses consist of

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A. RNA or DNA in a protein coat

B. RNA only

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C. RNA or DNA in a protein coat covered with lipid envelope

D. RNA, DNA and enzymes in a protein coat with a lipid envelope

18. Which type of phage always lyses its host cell

A. Prophage

B. Lysogenic

C. Virulent

D. Temperate

19. Which of the following is not true of viruses

A. Viruses replicate by binary fission.

B. Viruses can exit in two phases: intracellular and extracellular,

C. Viruses are acellular.

D. Viruses consist of one or more molecules of DNA or RNA enclosed in a coat of protein and sometimes in other more complex layers.

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20. Which of the following is/are necessary for the replication of satellite virus

A. Host cell and helper virus

B. Helper virus only

C. Host cell only

D. Prion only

21. Viral capsid protein subunits are called

A. Elastomers

B. Auxomers

C. Viromers.

D. Protomers

22. Which of the following has been associated with a form of liver cancer

A. Hepatitis A Virus

B. Hepatitis B virus

C. Human T-cell lymphotropic virus

D. Human papilloma virus

23. Which is not true of viruses

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A. They infect animal and plant cells only.

B. They can be observed with an electron microscope

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C. They are acellular

D. They can exist in intracellular or extracellular phase.

24. Virus receptors are often not distributed uniformly over the surface of host cells, but are instead concentrated in lipid rafts

True

False

25. Enveloped viruses may enter their host cells by fusion of their envelope with the cytoplasmic membrane, thereby depositing their nucleocapsid within the cell.

True

False

26. Bacterial viruses are so named because they have prokaryotic cell structures similar to their bacterial hosts

True

False

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27. Enveloped viruses may enter their host cells by engulfment within coated vesicles (endocytosis).

True

False

Microbial Growth

1. A culture system with constant environmental conditions maintained through continual provision of nutrient and removal of wastes is called _____ culture system

A. Semicontinuous

B. Continuous

C. Fed-batch

D. Batch

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2. The most lethal UV light wavelength to microorganisms is;

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A. 260 nm

B. 280 nm

C. 400 nm

D. non of these

3. When a microorganism is placed in a _____ solution, water will enter into the cell and cause it to burst unless something is done to prevent this

A. Isotonic

B. Hypotonic

C. Hypertonic

D. Osmotonic

4. A microbe that is described as halophile means;

A. it can tolerate the presence of helium in the atmosphere

B. It can not live in the presence of salt

C. It can tolerate the presence of salt but do not live or divide

D. it requires high salt for it to live

5. A culture in a closed vessel to which no additional medium is added and from which no waste products are removed is called;

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A. Semicontinuous culture

B. Fed-batch culture

C. Continuous culture

D. Batch culture

6. Organisms that grow with optimum temperature 20-45 C are called;

A. Mesophiles

B. Thermophils

C. Psychrotrophs

D. Facultative psychrophils

7. Organisms that are not drastically affected by increased pressure are called;

A. Barophilic

B. Osmotolerant

C. Osmophilic

D. Barotolerant

8. Which of the following procedures uses a photocell to measure absorbance of a culture to regulate the flow of culture media?

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A. Turbidostat

B. Chemostat

C. Petroff-Hausser chamber

D. Coulter counter

9. One hypothesis about the decline in cell numbers during death phase is the cells aren't all dying but instead remain alive but unable to grow when, cultured, at least temporarily. These are known as

A. Programmed death cells

B. Viable culturable cells.

C. Viable but nonculturable cells.

D. Death phase cells.

10. An open system in which the growth rate is maintained by the removal and addition of media at such a rate as to maintain a constant cell density is called a;

A. Chemostat

B. Culturostat

C. Turbidostat

D. Manostat

11. Addition of salt to a culture medium only allows the salt-tolerant bacteria to grow. This is an example of a

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A. Selective media

B. Complex media

C. Enriched media

D. Differential media

12. Addition of blood to a culture medium only allows the hemolytic bacteria that grow on the plate to be picked out. This is an example of

A. Selective media

B. Complex media

C. Enriched media

D. Differential media

13. Organisms that grow well at 0 C and have optimum growth temperatures of 15C or lower are called;

A. Frigiphiles

B. Mesophiles

C. Psychrotrophs

D. Psychrophiles

14. Which of these methods can be used to determine the number of viable microorganisms in a sample?

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A. Counting a known volume of cells in a hemocytometer

B. Measuring colony forming units per ml

C. Measuring total cell mass

D. Light scattering in a spectrophotometer

15. Organisms that are damaged by the normal atmospheric levels of oxygen (20%)but require oxygen at levels of 2 – 10 % for growth are called;

A. Aerotolerant

B. Facultative anaerobes.

C. Microaerophiles

D. Anoxygenic

16. Which of the following is considered a cardinal growth temperature?

A. The maximum temperature

B. The optimum temperature

C. The minimum temperature

D. All of these

17. Media containing some ingredients of unknown chemical composition are called _____ media.

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A. Synthetic

B. Defined

C. Complex

D. Undefined

18. A growth medium that favors the growth of some microorganisms but inhibits the growth of other microorganisms is a _____ medium.

A. Selective

B. Differential

C. Selective and differential

D. Neither selective nor differential

19. A growth medium that distinguishes among different groups of bacteria on the basis of their biological characteristics is called a _____ medium.

A. Selective

B. Differential

C. Enrichment

D. Transport

20. Media in which all components and their concentration are known are called _____ media.

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A. Defined

B. Transport

C. Enrichment

D. Selective

21. Organisms that require increased pressure for optimum growth are called

A. Barotolerant.

B. Osmotolerant.

C. Barophilic.

D. Osmophilic.

22. Organisms that grow near deep-sea volcanic vents are likely to be

A. Alkylophilic.

B. Acidophilic.

C. Barophilic or barotolerant.

D. Picrophilic.

23. Organisms that grow in the mud under relatively nonturbulent bodies of water are likely to be

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A. Obligate aerobes.

B. Thermophilic.

C. Barophilic.

D. Anaerobes.

24. Most microorganisms maintain their internal pH

A. Near neutral (pH 7).

B. Near their optimum growth pH.

C. Slightly acidic (pH 4–6).

D. Slightly alkaline (pH 8–10).

25. Organisms that do not require oxygen for growth but grow better in its presence are called

A. Facultative anaerobes.

B. Microaerophiles.

C. Aerotolerant.

D. Anoxygenic

26. An organism is completely dependant on atmospheric O2 for growth. This organism is a(n)

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A. Acidophile

B. Osmotolerant

C. Obligate aerob

D. Facultative anaerob

27. Which of the following terms describes organisms that thrive in the cold?

A. Aerophiles

B. Mesophiles

C. Thermophiles

D. Psychrophiles

28. Blood agar is both a differential and enriched medium.

True

Flase

29. A given medium can be either selective or differential but not both.

True

False

30. All bacterial and archaeal cells are diploid.

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True

False

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31. During the lag phase of microbial growth, the cells are metabolically inactive.

True

False

32. A common type of autoinducer found in gram-negative bacteria are acyl homoserine lactones (AHL).

True

False

Control of Microorganisms in the Environment

1. The two most important alcohol germicides are

A. Methanol; isopropanol

B. Methanol; butanol

C. Ethanol; Isopropanol

D. Ethanol; Methanol

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2. Disinfection means

A. Reduction of microbial population to levels deemed safe

B. Killing, inhibition, or removal of pathogenic organisms

C. Destruction or removal of all viable organisms

D. Prevention of infection of living tissue by microorganisms

3. Amphipathic organic molecules that serve as disinfectants by disrupting membranes and denaturing proteins are called

A. Detergents.

B. Soaps.

C. Oxidants

D. Sterilants.

4. Which of the following lacks sufficient penetrating power for bulk sterilization

A. Alpha and beta particles

B. Gamma radiation

C. X rays

D. Ultraviolet (UV) radiation at 260 nm

5. When comparing dry heat and moist heat sterilization, dry heat is

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A. Sometimes faster but sometimes slower.

B. Equally as fast.

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C. Slower

D. Faster

6. The agent frequently used to prevent infection by killing or inhibiting pathogen growth on animal tissues is called

A. Sanitizer

B. Sterilant

C. Antiseptic

D. Disinfectant

7. Autoclaving method of sterilization

A. Is effective against all types of microorganisms

B. Carried out at 121 C under 15 pounds of pressure for 20 – 30 minutes

C. Degrades nucleic acids, denatures proteins, and disrupts membranes

D. All of these

8. Which of the following is best to sterilize heat labile solutions

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A. Autoclave

B. Membrane filtration

C. Pasteurization

D. Dry heat

9. What is an agent that specifically kills fungi but not other kinds of microorganisms

A. Germistatic agent

B. Germicide

C. Fungicide or fungicidal agent.

D. Fungistatic agent

10. All the following are physical methods of microbial control EXCEPT

A. Pasteurization

B. Filtration

C. Ethylene oxide gas sterilization

D. UV light

11. Which of the following is not a method of heat sterilization?

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A. Autoclaving.

B. Incineration.

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C. Pasteurization.

D. Heating in a dry air oven

12. Which of these is an agent that is used to sterilize the plastic tubing of heart-lung machines?

A. Phenol

B. Mercaptoethanol

C. Ethylene oxide

D. 70% ethanol

13. Pasteurization is used to;

A. Kill any pathogens present and retard spoilage

B. Retard spoilage

C. Kill any pathogens present

D. Sterilize beverages

14. When antiseptics and disinfectants are compared, antiseptics are generally

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A. Less toxic

B. More toxic

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C. Equally as toxic

D. Unpredictable in toxicity

15. Which of the following inhibits bacterial growth but does not kill bacteria

A. Lysozyme.

B. Bactericidal agent.

C. Bacteriostatic agent.

D. Antiseptic agent.

16. Dry heat sterilization is generally faster than moist heat sterilization

True

False

17. All germicides are capable of killing all pathogenic organisms and endospores.

True

False

18. The rate of killing by an antimicrobial agent may slow when the microbial population has been greatly reduced because the remaining population may have a high proportion of resistant organisms

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True

False

19. Microorganisms show differential sensitivity to antimicrobial agents.

True

False

20. Antiseptics are generally not as toxic as disinfectants

True

False

BONUS. Spores are resistant because of the following EXCEPT;

A. Dehydration of the coat

B. The teichoic acid in the cout

C. Dipicolinic acid in the coat

D. Acid soluble DNA binding proteins

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Microbial Taxonomy

1. The Organisms in which of the are more closely related?

A. Family

B. Order

C. Class

D. Phylum

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2. The assignment of names to taxonomic groups is referred to as

A. Nomenclature مامون شقيرات & رحمة الجراح

B. Systematics.

C. Taxonomy

D. Identification

3. Arrangement of organisms into groups

A. Nomenclature

B. Classification

C. Diagnosis

D. Identification

4. Taxonomy is the science that is composed of all the following EXCEPT;

A. Nomenclature

B. Classification

C. Diagnosis

D. Identification

5. The collection of strain that share many stable properties is called;

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A. Family

B. Genus

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C. Species

D. Order

6. The binomial system of nomenclature assigns each organism a scientific name consisting of

A. Species and strain.

B. Kingdom and species.

C. Genus and species.

D. Kingdom and genus.

7. The temperature at which half of the strands of a double-stranded DNA molecule have separated from each other is called the _____ temperature.

A. Separation

B. Melting

C. Destabilizing

D. Mobilization

8. Which of the following is an example of the use of the binomial system devised by Linnaeus?

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A. Escherichia coli

B. Enterobacteriaceae

C. Enterobacteriales

D. O157:H7

9. Which of the following is not of Phenetic Classification

A. Groups organisms together based on mutual similarity of phenotypes

B. Can reveal evolutionary relationships, but not dependent on phylogenetic analysis

C. Best systems compare as many attributes as possible

D. Non of the above

10. Which of the following Kingdoms are only prokaryotes

A. Monera

B. Animalia

C. Plantae

D. Fungi and Protista

11. Determination of taxon to which an isolate belongs

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A. Classification

B. Nomenclature

C. Identification

D. Diagnosis

12. Taxonomic Ranks

A. Domain, phylum, class, order, family, genus, species

B. Domain, phylum, family, , order, class, genus, species

C. Domain, phylum, order, family, class, genus, species

D. Domain, family, class, order, , genus, species

13. Ecological Characteristics is

A. Life-cycle patterns

B. Symbiotic relationships

C. Ability to cause disease

D. Habitat preferences & Growth requirements

E. All of the Above

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Gram Negative

1. A genus in the family Enterobacteriaceae that is a major pathogen of crop plants is

A. Erwinia

B. Proteus

C. Shigella

D. Yersinia

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2. Members of the genus Salmonella are common causes of

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A. Urinary tract infections

B. Gastroenteritis

C. Pneumonia

D. Meningitis

3. Helicobacter pylori is responsible for

A. Cholera

B. Dysentery

C. Pneumonia

D. Peptic ulcer disease

4. Which of the following is true of Agrobacterium tumefaciens

A. It may be a member of the same species as Rhizobium

B. It causes crown gall disease when it carries a tumor inducing (Ti) plasmid

C. It is not capable of nitrogen fixation

D. All of the choices are ture

5. The complex of periplasmic flagella that mediates the movement of spirochetes is referred to as the

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A. Axial filament

B. Axillary filament

C. Flagellar complex

D. Peritrichal axon.

6. Which of the following genera grow symbiotically within root nodules of legumes as nitrogen-fixing bacteroid

A. Agrobacterium

B. Rhizobium

C. Nitosomonas

D. Bacteroides

7. Members of the genus Veillonella are part of the normal microflora of the

A. Sweat glands and hair follicles

B. Upper and lower respiratory tract

C. Stomach

D. Mouth and gastrointestinal tract

8. One of the following is a predatory bacteria:

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A. Campylobacter

B. Bdellovibrio

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C. Helicobacter

D. Vibrio

9. Campylobacter jejuni is the cause of

A. Wilt disease in plants

B. Fowl cholera

C. Abortion in sheep and enteritis diarrhea in humans

D. Meningitis

10. Primary atypical pneumonia in humans is caused by

A. Klebsiella pneumoniae

B. Streptococcus pneumoniae

C. Mycoplasma pneumoniae

D. Pneumococcus pneumoniae

11. Coxiella burnetii is responsible for

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A. Rocky Mountain spotted fever

B. Q-fever

C. Lyme disease

D. Typhoid

12. Coxiella burnetii reproduces in the _____ of a eukaryotic host cell.

A. phagolysosome

B. cytoplasm

C. nucleus

D. endoplasmic reticulum

13. Members of the genus Neisseria cause which of the following human diseases

A. Syphilis

B. Gonorrhea & meningitis

C. Genital herpes

D. Diarrhea gastroenteritis

14. The causative agent of cholera in humans is a members of genus

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A. Vibrio

B. Shigella

C. Escherichia

D. Enterobacter

15. Members of the genus Pseudomonas

A. are aerobes that mineralize a wide variety of organic compounds.

B. are obligate intracellular parasites.

C. form cysts when starved for nutrients.

D. perform anaerobic photosynthesis.

16. Pasteurella multiocida cause

A. Abortion in sheep

B. Fowl cholera

C. Pneumonia in cattle and sheep

D. Non of these

17. Which of the following genera fix nitrogen nonsymbiotically

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A. Nitrosomonas

B. Nitrobacter

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C. Rhizobium

D. Azotobacter

18. An organism that uses methane or methanol as its sole carbon and energy source is called a

A. Methanogen.

B. Methylotroph.

C. Methanotroph.

D. Methylogen.

19. The best studied bacteria in terms of genetics, growth, diseases _____ etc

A. Salmonella enteritidis

B. Escherichia coli

C. Klebsiella pneumonia

D. Staphylococcus aureus

20. Rickettsias are not

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A. They cause Rocky Mountain Spotted Fever.

B. Able to use glucose as an energy source

C. Obligate intracellular parasites.

D. All of the choices

21. Members of the genus Rhizobium

A. Infect broad-leaved plants and cause crown gall disease.

B. Are free living soil bacteria that fix nitrogen.

C. Grow symbiotically in root nodules of legumes where they fix nitrogen.

D. Are important nitrifying bacteria that convert nitrite to nitrate

22. Pseudomonads are a large group of bacteria which can

A. Cause disease

B. Is a gram negative rod

C. Spoil refrigerated food

D. All of the mentioned are correct

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24. The infectious stage of chlamydiae is called a 👇 _____ body

A. Contagious

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B. Reticulate

C. Elementary

D. Oogonial

23. The genus Desulfovibrio

A. Produces H2S.

B. Is a strict anaerobe

C. Uses sulfate as a terminal electron acceptor during anaerobic respiration

D. All of the choices

25. The spirochetes include the causative agents for

A. Plague

B. Gonorrhoeae

C. Lyme disease & Syphilis & Zoonoses (leptospirosis)

D. Whooping cough

26. Rickettsia and Coxiella are similar in all the following EXCEPT

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A. Both belong to alpha Proteobacteria /// only for Rickettsia , Gamma Proteobacteria for Coxiella

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B. Both are pleomorphic

C. Both are parasitic

D. Non of these

27. The bacteria that form colonies like the fried egg on agar is

A. Toxoplasma gondii

B. Lactobacillus lactis

C. Mycoplasma pnemoniae

D. Clostridium tetanus

28. Mineralization refers to

A. The breakdown of organic materials to inorganic materials.

B. The release of various minerals from ores.

C. The utilization of minerals as energy sources.

D. The incorporation of inorganic material into organic materials.

29. The genus Desulfovibrio

A. Uses sulfate as a terminal electron acceptor during anaerobic respiration.

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B. Is a strict anaerobe.

C. Produces H2S.

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D. All of the choices

30. Bacteria that naturally exhibit bioluminescence have been found in which of the following genera?

A. Vibrio

B. Shigella

C. Pasteurella

D. Pseudomonas

31. Methylotrophic bacteria

A. Use reduced one-carbon compounds as their main source of carbon.

B. Are members of the Archaea based on 16S rRNA sequencing.

C. Produce methane as a by-product of their metabolism.

D. Are strict anaerobes.

32. In which of the following regions in the host bacterium you are most likely to find Bdellovibrio

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A. The nucleoid

B. The cytoplasm

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C. The cell nucleus

D. The periplasmic space or The space between the cell wall and plasma membrane

33. An infection known as blood poisoning is called

A. Toxemia

B. Systemia

C. Phytogenic

D. Septicemia

34. The part of the spirochete that houses the cytoplasm and the nucleoid of spirochetes is called the _____ cylinder.

A. Protoplasmic

B. Mesoplasmic

C. Ectoplasmic

D. Cytoplasmic

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Training

All are Important pathogenic enteric bacteria, EXCEPT

A. Salmonella – typhoid fever and gastroenteritis

B. Shigella – bacillary dysentery

C. Klebsiella – pneumonia

D. Yersinia - plague

E. Erwinia – blights, wilts, etc., of crop plants

F. E-coli

Gram Positive

1. Which of the following statements describe the genus Caryophanon

A. It is Strictly aerobic and catalase positive

B. Its cells have a distinctive disc shape and are joined together to form rods

C. its normal habitat is in cow dung & disk-shaped cells

D. All of the above

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2. Which of the following disease is caused by Clostridium perfringens?

A. Fire blight disease of pears

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B. Gas gangrene

C. Tuberculosis

D. Pneumonia

3. Some species of Streptococcus, when grown on blood agar, produce an incomplete hemolysis with the formation of a green zone around the colony; this is referred to as

A. Alpha-hemolysis

B. Beta-hemolysis

C. Gamma-hemolysis

D. None of these

4. Which of the following is responsible for food spoilage even in canned foods?

A. Clostridium tetani

B. Clostridium acetobutylicum

C. Clostridium botulinum

D. Clostridium perfrigens

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5. Members of the genus Leuconostoc are important in the production

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A. Cheese

B. Dextrans /// synthesis

C. Sauerkraut

D. All of these

6. Which of the following bacteria is associated with dental caries?

A. S. mutans

B. S. fecaelis

C. Streptococcus pneumoniae

D. Lactococcus lactic

7. Members of the genus Mycobacterium cause which of the following diseases in human

A. Tuberculosis and leprosy

B. Diphtheria

C. Abscesses

D. Meningitis

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8. Which of the following genera produce numerous useful antibiotics?

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A. Bacillus

B. Clostridium

C. Leuconostoc

D. All of these

9. Which of the following is used in the production of buttermilk and cheese

A. S.mutans

B. S.fecaelis

C. Streptococcus pneumoniae

D. Lactococcus lactic

10. Which of the following characteristics are not representative of the bacterium Listeria?

A. Listeria is a Gram-positive rod.

B. Listeria is a facultative or aerobic.

C. Listeria has a catalase enzyme.

D. Listeria is nonmotile.

11. The genus Mycobacterium

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A. Have cell walls similar to gram negative bacteria

B. Are strict anaerobes and catalase positive.

C. Stain acid-fast

D. None of these

12. Which of the following is a normal skin resident?

A. Staphylococcus epidermidis

B. Staphylococcus aureus

C. Streptococcus mutans

D. Clostridium perfringens

13. Which of the following is pyogenic (pus forming)

A. Streptococcus fecaelis

B. Streptococcus mutans

C. Streptococcus agalactiae

D. Streptococcus lactis

14. Members of the genus Staphylococcus are normally associated with

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A. Skin glands

B. Skin

C. Mucous membranes

D. All of theses

15. Which type of fermentation is carried by Members of the genus Streptococcus

A. Butanediol

B. Mixed acid

C. Homolactic

D. Heterolactic

16. Which of the following is responsible for causing gas gangrene?

A. Clostridium perfringens

B. Clostridium botulinum

C. Clostridium acetobutylicum

D. Clostridium tetani

17. Clostridium perfringens causes which of the following?

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A. Gas gangrene

B. Pneumonia

C. Fire blight disease of pears

D. Tuberculosis

18. Which of the following will grow in both with 6.5% salt

A. Streptococcus fecaelis

B. Streptococcus mutans

C. Lactococcus lactis

D. All of these

19. Diphtheria is caused by a member of which of the following genera

A. Nocardia

B. Mycobacterium

C. Propionibacterium

D. Corynebacterium

20. The Lancefield grouping system

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A. Is used to identify Beta-hemolytic streptococci

B. Is Based on a DNA fingerprinting assay specific for streptococci

C. Depends on serological detection of peptidoglycan and teichoic acid antigens

D. None of theses

21. Which of the following lyse erythrocytes to make iron available to pathogens?

A. Collagenase

B. Hemolysins

C. Hyaluronidase

D. Coagulase

22. Which of the following is not one of the groups of streptococci?

A. the dermal streptococci

B. the anaerobic streptococci

C. the oral streptococci

D. the pyogenic streptococci

23. The organisms that causes toxic shock syndrome is

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A. Staphylococcus aureus

B. Staphylococcus pneumoniae

C. Staphylococcus epidermidis

D. Lactococcus lactis

24. Abscesses and boils are often associated with

A. Staphylococcus aureus

B. Streptococcus pneumoniae

C. Streptococcus mutans

D. Lactococcus lactic

25. Streptococcal sore throat (strep throat) is caused by

A. Streptococcus mutans.

B. Streptococcus trachius.

C. Streptococcus pyogenes.

D. Streptococcus pneumoniae.

26. Listeria monocytogenes propels itself through mammalian host cells using

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مامون شقيرات & رحمة الجراح

A. Host cell actin and other cytoskeletal proteins.

B. Periplasmic flagella.

C. Fimbriae-based twitching motility.

D. A modified form of gliding motility

27. Members of the genus Micrococcus are usually

A. Microaerophilic.

B. Anaerobic.

C. Aerobic.

D. Facultatively anaerobic.

28. Which of the following members of the genus Bacillus is currently used as a biological insecticide?

A. B. cereus

B. B. subtilis

C. B. thuringiensis

D. B. anthracis

29. Members of the genus Lactobacillus

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A. Are normal flora of the human body in mouth, intestinal tract and vagina.

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B. Produce large amounts of H2 as a byproduct of metabolism when growing on glucose.

C. Grow optimally under slightly alkaline conditions.

D. Are strict aerobes.

30. Important species of Clostridium cause food spoilage

A. C. tetani

B. C. botulinum

C. C. perfringens

D. C. acetobutylicum

Other Gram Negative and Cyanobacteria

1. The green sulfur bacteria are

A. Obligate anaerobes

B. Microaerophilic

C. Facultative anaerobes

D. Either obligate anaerobes or facultative anaerobes

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2. Which of the following best describes cyanobacteria

A. They can use H2S as a source of electrons for photosynthesis

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B. Their photosynthetic pigments are carried in chlorosomes.

C. They carry out anoxygenic photosynthesis

D. They carry out oxygenic photosynthesis

3. Which of the following accumulates sulfur granules inside the cell

A. Purple sulfur bacteria

B. Green sulfur bacteria

C. Cyanobacteria

D. None of the above

4. Which of the following are used by cyanobacteria for reproduction

A. Budding

B. Binary fission

C. Fragmentation

D. All of the above

5. The process of conversion of ammonia to nitrate is referred to as

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A. Nitrogen fixation.

B. Nitrification.

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C. Ammonification.

D. Denitrification.

6. Which of the following groups of photosynthetic bacteria are capable of oxygenic photosynthesis

A. The purple bacteria

B. The green bacteria

C. The cyanobacteria

D. All of the above

7. The purple non-sulfur bacteria

A. Typically can grow aerobically in the dark as chemoorganoheterotrophs

B. Utilize organic molecules as a source of electron for photosynthesis

C. Grow anaerobically as photoorganoheterotrophs

D. All of these

8. The genus Bdellovibrio

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A. Are responsible for causing diarrhea in humans.

B. Prey on gram negative bacteria by becoming an intracellular parasite.

C. Form long filaments called trichomes

D. use reduced sulfur compunds as a source of energy.

9. Cyanobacteria have

A. A gram positive cell wall

B. A gram negative cell wall

C. An unique cell wall that is neither gram positive nor gram negative

D. No cell Wall

10. Cyanobacteria are prokaryotes that carry out oxygenic photosynthesis like green plants; this means that

A. They chlorophyll

B. They use water as their electron source

C. Produce oxygen as a by-product of photosynthesis

D. All of the above

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11. Large spherical cells of cyanobacteria that are able to fix atmospheric nitrogen are referred to as

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A. Oocysts

B. Heterocysts

C. Microcysts

D. Nitrocysts

12. Beggiatoa are

A. Microaerophiles

B. Obligate aerobes

C. Obligate anaerobes

D. Facultative anaerobes

13. Which of the following genera is photosynthetic using bacteriochlorophyll g?

A. Heliobacterium

B. Veillonella

C. Clostridium

D. Caryophanon

14. Some cyanobacteria form _____, which are comprised of chains of bacterial cells that are in close contact with one another over a large area

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A. Cell mats

B. Mycelia

C. Trichomes

D. Hypha

15. Which of the following contain both chlorophyll a and chlorophyll b?

A. Cyanobacteria

B. Prochloron

C. Green sulfur bacteria

D. Purple sulfur bacteria

16. The green sulfur bacteria

A. Deposit granules within the cell.

B. Do not deposit granules.

C. Deposit granules within and outside the cell.

D. Deposit granules outside the cell.

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Other Gram Positive (Actinomycetes)

1. Which of the following antibiotics is (are) produced by actinoplanetes

A. Cycloserine

B. Nalidixic acid

C. Gentamicin

D. Penicillin

2. Which of the following antibiotics are produces by members of the genus Bacillus

A. Polymyxin

B. Bacitracin

C. Gramicidin

D. All of these

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3. Which of the following can be used to help classify actinomycetes?

A. Cell wall composition

B. Percent G + C content

C. Phospholipid composition of the membrane

D. All of these can be used to classify actinomycetes.

4. The conidiospores of streptomycates are

A. Nonmotile

B. Motile by means of pseudopodia

C. Motile by means of flagella

D. Motile by means of cilia

5. Which of the following is (are) true about actinomycete spores

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A. They are heat resistant

B. They withstand desiccation well

C. They are true bacterial endospores

D. They are all motile due to the presence of a flagellaum

6. Members of the genus Thermoactinomyces

A. Are commonly found in damp haystacks and compost piles

B. Produce endospores.

C. Are thermophiles

D. All of these

7. Actinomycetes form

A. Substrate mycelia

B. Aerial mycelia

C. Exospores

D. All of these

8. Actinomycetes

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A. Form sexual spores, that is, they are used for sexual reproduction

B. Form asexual spores

C. Form heat resistant spores

D. Do not form spores

9. Actinomycetes are

A. Cocci

B. Bacilli

C. Curved

D. Filamentous

10. Which of the following is true of the actinomycetes

A. Like other filamentous bacteria, the hyphae do not undergo fragmentation

B. Some are photosynthetic

C. They do not use hyphal fragmentation as a growth strategy

D. They divide by budding

11. Mycelium is

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A. Sexual spore

B. Asexual spores

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C. Always septated

D. Filamentous hyphae

12. Which of the following is not useful in classifying actinomycetes?

A. Color of the sporangia

B. Sporangia morphology

C. Mycelial morphology

D. Ability to ferment carbohydrates

13. Members of the genus Thermomonospora

A. Produce single spores on their mycelia

B. Spores can form on either aerial or substrate mycelia

C. Can be isolated from compost piles and hay

D. All of these

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14. Thermoactinomyces vulgaris is the causative agent for

A. Vaginitis

B. Primary atypical pneumonia

C. Farmer's lung disease

D. Cystic fibrosis

FUNGI

1. The body or vegetative structure of fungus is called a

A. Hypha

B. Mold

C. Thallus

D. Yeast

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2. Asexual spores such as conidia develop by process of

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A. Parthenogenesis

B. Meiosis

C. Mitosis

D. Fission

3. Fungi

A. Generate ATP and reducing equivalents by photosynthesis

B. Absorb nutrients from the environment

C. Take in food by phagocytosis

D. All of theses

4. Fungi are found primarily in which of the following environments

A. Marine

B. Terrestrial

C. Freshwater

D. Marine

5. Which of the following is not found among the zygomycetes, ascomycetes, and basidiomycetes

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A. Flagellated cells

B. Fusion of gametes /// Zygomycota

C. Septate hyphae

D. Saprophytic nutrition

6. Zygomycetes live on

A. Bread

B. Fruits and Vegetables

C. Organic matter in the soil.

D. All of the choices

7. The primary storage polysaccharide in fungi is

A. Starch

B. Glycogen

C. Chitin & Cellulose

D. None of the choices

8. Features that are useful for identification of fungal species include

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A. Size, Shape color and number of spores

B. Ability to produce chlorophyll a

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C. Presence of a membrane bound nucleus

D. All of the choice

9. The tangled mass or tissue-like aggregation in a mold is called a

A. Mycelium

B. Hypha

C. Hyphae

D. Thallus

10. The fruiting body of a fungus produces

A. Rhizoids.

B. Zygotes.

C. Spores.

D. Gametes.

11. Asexual spores such as Conidia develop by the process of ____.

Mamon Bashar Shqairat & Rahmah Riad Al-Jarrah

A. Mitosis

B. Conidia

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C. Mycelium

D. All answers are true

12. Asexual reproduction is common in the filament ascomytes and is associated with the production of

A. Mitosis

B. Conidia

C. Mycelium

D. All answers are true

14. Fungi:

A. Are comprised of eucaryotic cells.

B. Produce chlorophyll under aerobic conditions.

C. Are procaryotes or eucaryotes, depending on the species.

D. Produce chlorophyll under aerobic conditions and are procaryotes or eucaryotes, depending on the species

15. The common bread mold Rhizopus stolonifer belongs to the division

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A. Zygomycota

B. Deuteromycota.

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C. Ascomycota.

D. Basidiomycota.

16. Some actinomycetes form a tissue-like mass called a

A. Hypha.

B. Thallus.

C. Conidium.

D. Mycelium.

Pathogenicity and Infection

1. The toxic component of lipopolysaccarride is called

A. O-antigen polysaccharide

B. Lipid A

C. Exotoxin

D. Hemolysin

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2. Which of the following organisms causes plague

A. Helicobacter pylori

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B. Campylobacter jejuni

C. Yersinia pestis

D. Bordetella pertussis

3. All the following are membrane disrupting exotoxins EXCEPT;

A. Phospholipase

B. Lipopolysaccharide

C. Hemolysins

D. Leukocidins

4. Which of the following is not a mode of action associated with endotoxin?

A. Induction of paralysis

B. Activation of the coagulation cascade

C. Production of tissue necrosis factor Alpha

D. Generation of signals resulting in fever

5. Which of the following features of a pathogen is not considered to be a virulence factor when establishing infection within host?

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A. Pigment production

B. Protein spikes

C. Capsule

D. Attachment fimbriae

6. Adherence factors (adhesins) that play a role in infectious diseases caused by Gram negative bacteria include all of the following EXCEPT

A. Capsules.

B. Peptidoglycan.

C. Fimbriae.

D. S-layer.

THE END

مامون شقيرات & رحمه الجراح

نَتَمَنَّى لكم بالتوفيق و النجاح

كلية التمريض

26 / 2 / 2022

13 / 6 / 2022